



Program

Engineering Science

7320 | 24 Units of Credit

Overview

If you are commencing in Term 2 2020 under the Government's Higher Education Relief Package due to COVID-19, please refer to the advice in the Additional Information section below.

The Graduate Certificate of Engineering Science program is designed for engineers and graduates wishing to develop and expand their knowledge and skills in their current area of expertise.* This will enable students to meet or maintain professional accreditation standards and to provide opportunities for continuing professional development, as well as the opportunity to interact with those at the cutting edge of their discipline.

Students will add breadth to their knowledge of engineering in general and expand their knowledge and skills in engineering management. Students will develop their technical knowledge and ability to analyse engineering problems. They will also gain further skills in solving engineering problems and justifying professional decisions.

The program articulates to the Graduate Diploma of Engineering Science program with full credit for courses completed in the Graduate Certificate program. Students may exit from this proposed program with a Graduate Certificate award if they have completed the required course requirements. A credit average (65%) is generally required to articulate to the next level in the sequence.

(* It is also possible for students to acquire knowledge and skills in a different specialisation at the approval of the Stream Authority. This may require the student to take additional foundation and disciplinary knowledge courses at the discretion of the Stream Authority).

The program is designed to enable students to fulfil a number of needs including:

- Updating technical knowledge and skills in an existing engineering

specialisation

- Acquiring new knowledge and skills in a different engineering specialisation
- Developing and expanding knowledge and skills in engineering management
- Updating qualifications and knowledge to meet or maintain professional accreditation standards
- Providing opportunities for continuing professional development
- Providing opportunities for interaction with those at the cutting edge of the discipline
- Providing a pathway towards the Master's program.

Note: All software required for coursework is provided on the computers in the School computer laboratories. Some students find it advantageous to buy their own computer and software so that they can work at home. Some external courses may require students to own their own computer with Microsoft Office or equivalent. Specialist software packages that are required for external courses will be provided as part of the course pack to students.

Faculty

Faculty of Engineering

Campus

Kensington

Study Level

Postgraduate

Typical duration

0.7 Years

Delivery Mode

Face-to-face

Intake Period

Term 1, Term 2, Term 3

Academic Calendar

3+ Calendar

Minimum Units of Credit

24

Award type

Graduate Certificate

Award(s)

Graduate Certificate in Engineering Science -

GradCertEngSc

CRICOS Code

084278G

Program Structure

Students must complete 24 UOC as a standalone program.

Specialisation Requirements

Students must complete at least one of the specialisations below.

Please note that Civil Engineering is offered in Term 1, Term 2 and Term 3 intake, whereas Nuclear Engineering is only offered in Term 1 intake.

SPECIALISATION:

CEICNS | 24 UOC

Chemical Process Engineering (7320)

CVENGT | 24 UOC

Civil Engineering (7320)

ELECUS | 24 UOC

Energy Systems (7320)

ELECVS | 24 UOC

Electrical Engineering (7320)

ENGGBS | 24 UOC

Engineering Design and Management (7320)

ENGGRS | 24 UOC

Nuclear Engineering

MANFGS | 24 UOC

Engineering Resilience (7320)

SOLAIS | 24 UOC

Photovoltaics and Solar Energy Engineering (7320)

SOLAJS | 24 UOC

Renewable Energy Engineering (7320)

TELEDS | 24 UOC

Telecommunications (7320)

Sample Programs

To access sample program(s), please visit:

[Engineering Science](#)

Enrolment Disclaimer

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.

Admission Requirements

Entry Requirements

In order to be admitted to the program students need a recognised four year Bachelor degree in a relevant discipline of engineering with a minimum 65% average.

NOTE: The minimum average required for entry is as determined by the [UNSW Postgraduate Entry Score Calculator](#). Students from a non-211 university in China need a minimum 70% average.

Those without a recognised four year Bachelor degree in a relevant discipline of engineering with a minimum 65% average are required to argue their prior learning is equivalent to this qualification. For example, a 3- or 4-year Bachelor of Engineering or Science combined with relevant discipline experience (exact positions and roles that will be considered relevant to be decided by each specialisation) may be recognised.

For more information about admission requirements for various UNSW programs, visit the following website(s):

[Domestic Students](#)

[International Student](#)

Program Requirements

Progression Requirements

The courses in each specialisation form an articulated sequence. Students who complete the Graduate Certificate, Graduate Diploma or Master program may upgrade to the next program with full credit for the courses undertaken in the previous program(s), provided they have completed the previous program at UNSW. A credit average (65) is generally required to articulate to the next level in the sequence. Students who have enrolled in a program will be permitted to exit with a lower qualification in the specialisation sequence providing they have completed the requirements of that program. Subject to the approval of the program authority and available places, students will be permitted to transfer to another specialisation with credit transfer being subject to the requirements of the specialisation into which the student is transferring.

For more information on university policy on progression requirements please visit [Academic Progression](#).

Pathways

Articulation Arrangements

Other program(s) within articulated suite:

[Graduate Diploma in Engineering Science - **GradDipEngSc** **5341 Engineering Science**](#)

Faculty: Faculty of Engineering

Campus: Kensington

Units of Credit: 48

Typical Duration: 1 Years

[Read More](#)

[Master of Engineering Science - **MEngSc** **8338 Engineering Science**](#)

Faculty: Faculty of Engineering

Campus: Kensington

Units of Credit: 96

Typical Duration: 2 Years

[Read More](#)

Additional Information

Domestic students commencing in Term 2 2020 under the Government's COVID-19 Higher Education Relief Package can enrol in a maximum of 4 courses (24 units of credit) across Term 2 and Term 3 2020 at the discounted fee rates. Further information about the COVID-19 Higher Education Relief Package is at <https://student.unsw.edu.au/herp>

Available specialisations: CVENGT - Civil Engineering, MANFGS - Engineering Resilience, ENGGBS - Engineering Design and Management, CEICNS - Chemical Process Engineering, SOLAIS - Photovoltaics and Solar Energy Engineering, SOLAJS - Renewable Energy Engineering, ELECUS - Energy Systems, ELECVS - Electrical Engineering, TELEDS - Telecommunications

*The following courses are available online. **You should check the rules of your specialisation** on the relevant Handbook page and enrol accordingly.*

Term 2 recommended courses: ENGG9744 Nuclear Safety, Security and Safeguards GMAT4220 Geospatial Information Science GSOE9141 Smart Grids and Distribution Networks GSOE9340 Life Cycle Engineering GSOE9820 Engineering Project Management GSOE9830 Economic Decision Analysis in Engineering MANF4611 Process Modelling and Simulation MANF9472 Production Planning and Control MMAN4200 Additive Manufacturing PHTN4662 Photonic Networks SOLA3010 Low Energy Buildings and Photovoltaics SOLA3020 Photovoltaic Technology and Manufacturing TELE9751 Switching Systems Architecture TELE9782 Special Topics in Telecommunications 2

Other Term 2 courses: AVIA5015, AVIA5022, COMP6447, COMP9021. CVEN4104, CVEN4202, CVEN4301, CVEN4402, CVEN4703, CVEN9521, CVEN9630., CVEN9888, CVEN9888, ENGG9743, GSOE9340, GSOE9360, GSOE9820, GSOE9830, MANF9400, SOLA3010, SOLA4012, SOLA4012, SOLA9103

Term 3 recommended courses: CEIC8330 Process Engineering in the Petroleum Industry CEIC8341 Membrane Processes CVEN4705 Environmental Sustainability CVEN9504 Urban Transport Planning Practice CVEN9710 Management of Risk ELEC9711 Power Electronics for Renewable and Distributed Generation ELEC9712 High Voltage Systems ELEC9732 Analysis and Design of Non-linear Control FOOD8450 Advanced Food Engineering GMAT9600 Principles of Remote Sensing GSOE9445 Entrepreneurial Engineering GSOE9445 Entrepreneurial Engineering GSOE9445 Entrepreneurial Engineering GSOE9740 Industrial Ecology and Sustainable Engineering GSOE9810 Process and Product Quality in Engineering

GSOE9830 Economic Decision Analysis in Engineering MANF9420 Operations and Supply Chain Management in Engineering MANF9420 Operations and Supply Chain Management in Engineering SOLA9001 Photovoltaics SOLA9120 Advanced Photovoltaic Manufacturing TELE9754 Coding and Information Theory

Other Term 3 courses: AVIA5018, CEIC8102, CHEN6701, COMP9021, CVEN4103, CVEN4204, CVEN4308, CVEN4405, CVEN9513, CVEN9612, CVEN9731, CVEN9802, ELEC4602, ELEC4603, ELEC4605, ELEC4632, ELEC4 632, ELEC9701, ELEC9719, GMAT9606, GSOE9111. GSOE9210, GSOE9210 , GSOE9445, GSOE9810, GSOE9810, GSOE9830, MANF9543, MMAN4400, SOLA5051, SOLA5052, SOLA5056, SOLA5056, SOLA9001, TELE4651

Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

[Domestic Students](#)

[Commonwealth Supported Students](#)

[International Students](#)

Additional Expenses

Field projects, site visits and industry seminars or lectures are a requirement of some courses and may involve additional expense.

Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

[Pre-2019 Handbook Editions](#)

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Authorised by Deputy Vice-Chancellor (Academic)

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